

**IMAGE SENSOR HAVING LARGE MICRO-LENSES AT THE PERIPHERAL  
REGIONS**

**ABSTRACT OF THE DISCLOSURE**

An image sensor includes an array of pixels formed in a semiconductor substrate. The pixels are grouped as a center portion of pixels and an outer portion of pixels. A first set of micro-lenses is formed over each of the pixels in the center portion of pixels. A second set of micro-lenses is formed over each of the pixels in the outer portion of pixels. The second set of micro-lenses differ from said first set of micro-lenses. In one embodiment, the second set of micro-lenses are taller than the first set of micro-lenses.